



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
PvuII (239) **EcoNI (287)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCGTACCCTGCTTGCTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **NcoI (560)** **BstEII (555)** **EcoO109I (572)**
AgeI (552) **Tth111I (568)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTACCATGGCCGACAAGTCCCTGAAGGAGAAGAAAGCTGTT
1 M A D K V L K E K R K L F

NcoI (608)
601 TATCCATTCCATGGGTGAAGGTACAATAATGGCTTACTGGATGAATTATTACAGACAAGGGTGTGAACCAGGAAGAGATGGAGAAAGTAAACGTGAA
13 I H S M G E G T I N G L L D E L L Q T R V L N Q E E M E K V K R E

SphI (763)
701 AATGCTACAGTTATGATAAGACCCGAGCTTTGATTGACTCCGTTATTCGAAAGGGGCACAGGCATGCCAAATTTGCATCACATACATTTGTGAAGAAG
47 N A T V M D K T R A L I D S V I P K G A Q A C Q I C I T Y I C E E

HindIII (898)
801 ACAGTTACCTGGCAGAGACGCTGGGACTCTCAGCAGCTTTCAGGCGAGTGCAGGACAACCCAGCTATGCCACATGCTCAAGCCGAGAAGGCAGAATCAA
80 D S Y L A E T L G L S A A L Q A V Q D N P A M P T C S S P E G R I K

XbaI (909)
901 GCTTTGCTTTCTAGAAGACGCTCAAAGGATATGGAAACAAAAGTTGCAGAGGTGCCATGTTTCCAGAAACAATAATAAAGTGGAGTGAAGATATACTTCA
113 L C F L E D A Q R I W K Q K L Q R C H V Q N T I I K W S E R Y T S

BsrBI (1045)
1001 GGCAGTTTTGAAATGCAGTGGCTTTTTCTTAGAACCAATTTATTGAGCGGTTCTGGAGAACATACTTCTGCTCCCTTGCATAAAGGATCTCTATATC
147 G S F E M Q W L F L R T N F I E R F W R N I L L L P L H K G S L Y

MscI (1181)
BalI (1181)
NheI (1175)
1101 CTAGAATCCAGTTTTAGGTAAGAGTTGCAAACCTGAACTCATAAATTATCATAGTCTTACCAGTCTGTCTCGTAGCTGGCCAGACATGATAAGAT
180 P R I P G L G K E L Q T G T H K L S •

1201 ACATTGATGAGTTTGACAAACCAACATAAGTGCAGTGAAGAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAG

HpaI (1313) **MfeI (1324)**
1301 CTGCAATAAACAAGTTAAACAACAATTCATTTCATTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAA

EcoRI (1409)
1401 TGTGGTATGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATC
1501 AGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTCTTTCAT

SspI (1648) **SwaI (1662)**
1601 TTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTT

EcoO109I (1723)
1701 ATTAGGCAGAATCCAGATGCTCAAGGCCCTTCAATAATCCCCAGTTTAGTAGTTGACTTAGGGAACAAGGAACCTTAAATAGAAATTGGACAGCAA

1801 GAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAG
141 • N R T Y K L P I L E E I T T K V L K G N M E I L V F

SacI (1923) **BstXI (1952)**
1901 CAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAG
113 C D P A Y D S I L E R C M G C P S V V R I S R D V E D S Y P H R V A

StuI (2087)
Eco147I (2087)
2001 CCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTG
80 V I T D F D K Q G N S V A S G I A I A E A C V T V R G I Y A E I H

2101 GACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCC
47 V A S I I E G T K T R I A A G V H H K N D E Y L M T I K E T A V E

BspHI (2237) **VspI (2295)**
XmnI (2229) **AseI (2295)**
2201 ACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAAGTATTATACTATGCCGATATACTATGCCGATGATTAA
13 V L E L D Q Q S I N F T K M

SacI (2352)
2301 TTGTCAAACAGCGTGGATGGCTCTCCAGCTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTT

2401 GCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAA
SpeI (2450)
←

2500 ATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGT
SnaBI (2578)
Eco105I (2578)

2600 AGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGA
NdeI (2683)

2700 TGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACG

PstI (2862)
SdaI (2861)PacI (2869)BspLU11I (2879)
 2800 TCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCC T G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C
←

2898 AGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAG
 2998 GTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTG

ApaLI (3193)
 3098 TCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGC
 3198 ACGAACCCCGTTCCAGCCGACCGCTGCGCCTTATCCGTAACATATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCAC
 3298 TGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATC
 3398 TCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGC
 3498 AGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTT

EagI (3629)
PacI (3609)SwaI (3618)NotI (3628)
 3598 GGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAA
 3698 CATACGCTCTCCATCAAAAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA